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**An analysis and reconstruction of transitive nominalization in Ch'olan
languages**

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Abstract

An analysis and reconstruction of transitive nominalization in Ch'olan languages

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This paper reconstructs the transitive nominalizing suffix **-yaj* (IPA **-/jax/*) in the Ch'olan branch of Mayan languages. I consider data from modern Chol, Chontal, and Ch'orti' as well as colonial Ch'olti' to reconstruct the phonological form and syntactic function of this morpheme. This suffix has been called nominalizing antipassive (e.g., Robertson et al. 2010:186-7), although it does not eliminate the object in all cases. Rather, I analyze it as a more general valency-reducing suffix.

Each of the languages has undergone small phonological changes, and all of them allow truncation of the suffix to *-aj* in certain phonological contexts and in fast speech. This paper argues that the glide is underlying, rather than epenthetic, and that the final consonant reconstructs to the velar fricative /x/ rather than the glottal /h/.

It also considers the distribution of these nominalizations in each of the languages, and the additional morphology that can appear on them. In particular, there has been a shift between colonial Ch'olti' and modern Ch'orti' in the preferred method for marking the thematic roles of the nominalized verb. Ch'olti' requires a prepositional phrase to reference

the patient or stimulus of the verb if it has been derived into an agentive, while Ch'orti' uses the Set A possessor for the same function. When there is no agentive prefix in Ch'olti', the Set A proclitic can appear before the nominalization, as in Ch'orti'.

Chol and Chontal use the **-yaj* suffix very similarly to each other. Although there is some debate about the role of nominalizations in split-ergative languages like these, these particular forms act as syntactic nouns, taking nominal morphology including possessors and being incorporated into verbs like any other noun. Further fieldwork on the distribution of the allomorphs in these languages would be particularly useful, as would a closer study focused on the syntactic distribution.

Table of Contents

List of Tables	ix
List of Figures	x
AN ANALYSIS AND RECONSTRUCTION OF TRANSITIVE NOMINALIZATION IN CH'OLAN LANGUAGES	1
1 Introduction.....	1
2 Brief history and location of Ch'olan languages	2
3 Relevant grammatical topics.....	6
4 Transitive Nominalization in Ch'olan	8
4.1 Colonial Ch'olti'	8
4.2 Ch'orti'	16
4.3 Chol and Chontal	25
5 Phonological reconstruction	29
6 Syntactic function	34
7 Conclusions and future research	37
Abbreviations	39
References.....	41

List of Tables

Table 1. Selected transitive verb forms and corresponding nominalizations from the <i>Artes</i> . (Morán 1695:38-39)	9
Table 2. A comparison of forms provided by Becquey (2014) and other sources, showing the level of variation in each language. <y> represents the phoneme /j/, and <j> represents the final fricative. In Ch'orti', this is either [x] or [h]; in Chol it is [x] (Vásquez Álvarez 2011:47); in Chontal it is [h] in this position (Keller 1959:47).	31

List of Figures

Figure 1. The Mayan language family according to Kaufman (1990:62).	3
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AN ANALYSIS AND RECONSTRUCTION OF TRANSITIVE NOMINALIZATION IN CH'OLAN LANGUAGES

1 INTRODUCTION

There have been several studies and publications reconstructing the phonology and lexicon of several Mayan proto-languages, including proto-Ch'olan and proto-Mayan (e.g. Kaufman & Justeson 2003, Robertson 1992, and Kaufman & Norman 1984). There has also been work reconstructing the phonology and function of various morphemes (e.g., Robertson 1977, Kaufman & Norman 1984, Osborne 1989, Mora-Marín 2003, and Becquey 2014). One such morpheme, innovated in the Ch'olan branch and discussed by Robertson et al. (2004), MacLeod (2004), and Becquey (2014), is a transitive nominalizer that also often functions as a valency-reducing morpheme.

This paper discusses in greater detail the evidence for reconstructing this suffix to proto-Ch'olan. I ultimately reconstruct a valency-reducing nominalizing¹ suffix of the form **-yaj²*, IPA */-jax/*. I consider data from all modern Ch'olan languages, Colonial Ch'olti', and Classic Mayan, the language of ancient Maya hieroglyphic inscriptions. The proposed reconstruction largely agrees with the reconstruction suggested by Becquey (2014), but fills gaps in that analysis and explores the possible pathways by which it evolved to its modern reflexes.

¹ This suffix has traditionally been called an antipassive, following convention established in literature on Mayan languages. However, it does not eliminate the object in every case, but does always reduce the arguments associated with the verbal stem and create a syntactic noun.

² This paper follows the conventions set forth for each language by the *Academias de Lenguas Mayas de Guatemala* and speakers of the Mexican languages. These orthographies largely correspond with IPA, with a few differences. *b*(') is phonemically a bilabial implosive /b/, *ch* is /tʃ/, *j* is /x/ or /h/ (depending on the specific language), *ñ* is /ɲ/, *ty* is /tʰ/, *x* is /ʃ/, *y* is /j/, *ä* is a lax central vowel, and long vowels are written as double vowels (e.g., *ee* rather than /e:/). Sounds and morphemes in either slash brackets (/ /) or square brackets ([]) are IPA representations. Words in angle brackets (< >) are orthographic. All other instances of Mayan languages are in the practical orthography just described.

This study is a first step toward a more fine-grained reconstruction of proto-Ch'olan that takes into consideration more of the variation present in modern Ch'olan languages. Such a reconstruction will in turn contribute to a more well-rounded understanding of the history of Mayan languages and the changes that they have undergone. This will extend even to Classic Mayan. For example, the evidence in this paper can be used to further explore MacLeod's (2004:323) argument that *-yaj* in Classic Mayan names (e.g., *K'ahk' Yipiyaj Chan K'awiil*), especially at Copán, was marking antipassive voice. Reconstruction of other regular sound changes and morphemes will similarly contribute to answering questions that remain in the study of Classic Mayan.

This paper is organized as follows. Section 2 provides basic geographic and demographic information for the Ch'olan languages. Section 3 gives basic grammatical information about Ch'olan languages that contextualizes the rest of the discussion in the paper. Section 4 describes nominalization strategies in Ch'olti', Ch'orti', Chol, and Chontal and compares the phonological shape and syntactic distribution of their respective reflexes of **-yaj*. Section 5 provides an argument for the reconstruction of **-yaj* as **-/jax/*. Section 6 provides an argument for the reconstruction of a transitive nominalizer. Section 7 provides final conclusions and future research.

2 BRIEF HISTORY AND LOCATION OF CH'OLAN LANGUAGES

There are three modern languages in the Ch'olan subgroup, nested within the Ch'olan-Tzeltalan branch of Western Mayan (see Figure 1). These modern languages are Ch'orti', Chol (Lakty'an), and Chontal of Tabasco (Yokot'an). There are also other attested historical languages or language varieties in the Ch'olan branch, including Colonial Ch'olti', Classic Mayan, and Acalán Chontal.

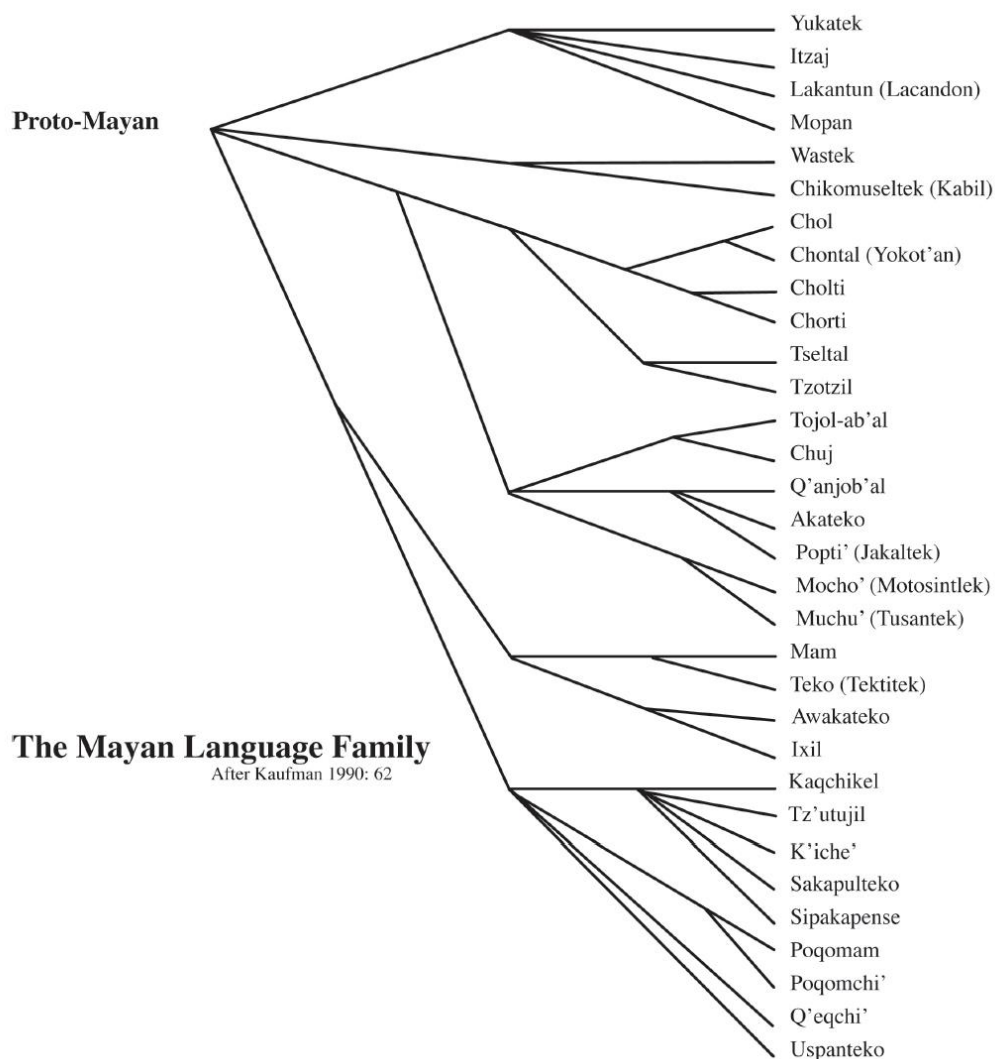


Figure 1. The Mayan language family according to Kaufman (1990:62).

Chol is spoken primarily in the state of Chiapas, Mexico, but is also spoken in small communities in Tabasco and Campeche (Vázquez Álvarez 2011:1). The INEGI 2010 census lists 212,117 speakers. There are two major dialects of Chol, Tila and Tumbalá, the latter of which has roughly twice as many speakers as the former (Vázquez Álvarez 2011:4-6).

Chontal is spoken in Tabasco, Mexico (Knowles 1984:5). Estimates of speakers range from 36,514 (Moseley 2010) to 60,000 (Garza Cuarón & Lastra 1991). The INEGI 2010 census lists 38,561 speakers. It is likely that these estimates are all relatively accurate and the number of speakers decreased over the 20-year gap between them. There are three major dialects of modern Chontal, the Tapotzingo dialect (which Osorio May (2016) calls the Nacajuca dialect after one of the towns in which it is spoken), the San Carlos dialect, and the Tamulté de las Sabanas dialect (Knowles 1984:17). Chontal combines with Chol to form the Western Ch'olan branch.

Ch'orti' is currently spoken in the southeast of Guatemala in Jocotán and surrounding aldeas in the departments of Chiquimula and Zacapa (Richards 2003). Estimates of speakers range from 9,105 (ibid.) to 52,000 (Adelaar & Quesada 2007), but the higher estimates are likely actually counts of ethnic Ch'orti'; the lower estimates are likely closer to the actual number of speakers. The Academia de Lenguas Mayas de Guatemala (ALMG) in Jocotán supports the maintenance of the language. There is some variation among speakers, but they do not recognize distinct dialects.

Ch'olti' was a language spoken through the colonial era of Mesoamerica. It was spoken across the better part of central Guatemala, as well as parts of southern Mexico, southern Belize, and possibly even western Honduras (Robertson et al. 2010). It is only attested in a single document, alternately called the Morán Manuscript, the Philadelphia Manuscript, or the Ch'olti' Manuscript. This manuscript is currently housed by the American Philosophical Society (APS) and is attributed to Father Francisco Morán, dated 1695. Morán was a Dominican missionary who learned several Mayan languages quite well, including Ch'olti', and wrote many materials about the language. Some of his work was copied into the Morán Manuscript by a number of other people, most notably Joseph Ángel de Zenoyo (Sattler 2004, Robertson et al. 2010). Father Ángel was born in

Guatemala, grew up speaking K'iche', and was trained by Morán within the Dominican order to proselytize to indigenous peoples. The manuscript comprises a brief history, two *Artes* (or grammars), a religious text, and a word list. The manuscript was based largely on documents previously written by Morán, but none of those original sources have survived to the present day. Ch'orti' is the closest living relative of Ch'olti', and the two form the Eastern Ch'olan branch.

There has been some debate as to the specific relationship between modern Ch'orti' and the language in the Ch'olti' Manuscript (e.g., Robertson 1998, 2002, 2003; Wichmann 2002, 2003). However, Robertson (2003) and Wichmann (2003) ultimately agree that Ch'orti' is descended from a different dialect of Ch'olti' than the one that was recorded in the manuscript. In fact, Robertson et al. (2010:26-33) describe at least five distinct dialects of Ch'olti' that can be inferred to have been spoken at the time of Spanish contact. These include the primary variant documented in the colonial manuscript, which Robertson et al. (2010) call Northeastern Ch'olti'; Lacandón (or Manché Chol), of which there is an example in the second grammar in the manuscript (Morán 1695:43), and which is distinct from modern Lacandón of the Yucatecan branch of Mayan languages; Southern Ch'olti', which Robertson et al. (2010) argue is the direct predecessor of modern Ch'orti'; and two other dialects they call Acalá and Gulf Ch'olti', for which there is no direct linguistic evidence. Ch'olti' was spoken at least until the beginning of the eighteenth century (Thompson 1938; Sapper 1906, 1936).

Classic Mayan is the language that was recorded in hieroglyphs. Various authors have used different types of data to place Classic Mayan within the language family, most often in the Ch'olan branch (e.g., Campbell 1984, Justeson & Campbell 1997, MacLeod 1984, Macri 1991, and Schele 1982 to name a few). However, the exact placement of Classic Mayan within the Ch'olan branch is still being debated. Houston et al. (2000) argue

that Classic Mayan is the immediate parent language of the Eastern Ch'olan languages Ch'olti' and Ch'orti'. The alternative analysis argues that Proto-Ch'olan diversified much later and Classic Mayan is a form of Proto-Ch'olan (e.g., Mora-Marín 2009).

3 RELEVANT GRAMMATICAL TOPICS

Pronouns are marked in Mayan languages with ergative and absolutive affixes or clitics. Some languages, such as Ch'olti' and Ch'orti', are simple ergative-absolutive languages in their treatment of these markers. Others, such as Chol and Chontal, are split-ergative, which treat incompletive intransitive verbs as nominative-accusative and treat other verb types and aspects as ergative-absolutive.

Ergative markers are generally referred to by Mayanists as “Set A” markers to indicate that they mark subjects of transitive verbs and that the same markers are also used as possessive markers on nouns. Absolutive markers, called “Set B” markers, mark subjects of intransitive verbs, objects of transitive verbs, and subjects of non-verbal predicates. “Set C” markers are a special third set which only exists in Ch'orti'. They are used to mark incompletive intransitive verbs, rather than marking these verb forms with an accusative pattern, as in Chol and Chontal. In Ch'olan languages, Set A and Set C markers precede the predicate and Set B markers follow it. In the split-ergative languages, Set A markers are used for subjects of both transitive and intransitive verbs in the incompletive aspect and Set B markers are used for objects.

There are two main types of transitive verbs in Mayan languages, referred to alternately as CVC and non-CVC stems or as root and derived transitives, respectively. They are mostly identifiable from their phonological shape because the majority of root transitives are of the shape CVC, and most derived transitives take some other morphology to derive them, making a non-CVC shape. However, ultimately, the two classes of verbs

are defined solely on what type of morphology they take, regardless of their inherent transitivity. Verbs that are inherently transitive which take derived transitive morphology are often transparently derived, and when they are not clearly derived, they often show evidence of being derived historically and fossilizing over time into an unparseable monomorphemic root. In some cases, the historical derivation is unclear. For example, *cha'l* 'do' in Chol has the shape CVCC and takes derived transitive morphology, even though this root is not analyzable as being polymorphemic and its etymology is unclear.

Verbs and nouns can also be distinguished by the morphology that they take. Verbs in most Mayan languages take TAM marking and status suffixes, which are obligatory on certain types of verbs. Nouns, even when acting as non-verbal predicates of sentences, cannot take TAM morphology or status suffixes unless they are first derived into verbal stems. In fact, nouns take very little morphology other than possession and, occasionally, plural marking. It is also possible for them to take a Set B marker in a non-verbal predicative construction. The line between the two word classes blurs somewhat in split-ergative languages, in which incompletive intransitive verbs are marked for subject with Set A morphemes, the same set used to mark possession on nouns.

Noun incorporation is a particularly common form of nominalization across Mayan languages as well as many other languages of the world. This process incorporates a noun into the verbal complex. Noun incorporation occurs in all of the Ch'olan languages, but only examples in Chol and Chontal include noun incorporation along with the suffix of interest in this paper. There are no documented examples of *-*yaj* in a noun incorporation construction, but each occurs separately in the corpus. To my knowledge, *-*yaj* with noun incorporation has not been documented in Ch'orti', but it may also be allowable.

4 TRANSITIVE NOMINALIZATION IN CH'OLAN

In this section, I will present data and analyses of the transitive nominalizer in Colonial Ch'olti' as well as each of the modern Ch'olan languages. In Section 4.1 I discuss and analyze evidence from the Ch'olti' Manuscript. The following subsections will focus individually on the modern languages, providing data from each and comparing the functionality of the transitive nominalizer between the languages. I discuss Ch'orti' in Section 4.2, and Chol and Chontal in Section 4.3.

4.1 Colonial Ch'olti'

Like other Mayan languages, there are several processes of nominalization in Ch'olti'. These include noun incorporation and various affixes which produce different lexemes. Some of these can only be taken by certain classes of stems. Most commonly, there are different affixes to do the same derivations on root and derived transitive verbs. This section focuses specifically on the distribution and function of the transitive nominalizer *-ya* (IPA /-ja/), and briefly comparing it with the alternative string of morphemes *-oj-el* (IPA /-ox-el/) which includes the passivizing *-oj* and the intransitive nominalizer *-el* which together seem to form a synonym of forms with *-ya*.

Transitive stems can take the nominalizing suffix *-ya*. There are 34 examples of this suffix in the text of the manuscript, and it only appears there with 10 unique stems. It is also discussed briefly in the *Artes*, including the examples in Table 1. These examples show the most common stems to take *-ya* in the manuscript as well as some of the apparent variation in pronunciation. There are two variants each for 'love' and 'my love for you', possibly reflecting differences in speed and carefulness of speech.

VERB	TRANSLATION	NOUN	TRANSLATION
<i>tzatzbun</i>	ayudar ([to] help)	<i>tzatzbuya</i>	la ayuda [help]
<i>utztes</i>	bendecir ([to] bless)	<i>utztesya</i>	bendicion [blessing]
<i>chojben</i>	amar ([to] love)	<i>chojbeya</i>	amor [love]
		<i>chojbya</i>	amor [love]
		<i>inchojbeya taba</i>	mi amor para contigo [sic] [my love for you]
		<i>inchojbya taba</i>	mi amor para contigo [sic] [my love for you]

Table 1. Selected transitive verb forms and corresponding nominalizations from the *Artes*. (Morán 1695:38-39)

All of the verb stems in Table 1 are historically morphologically complex. The stem *utztes* was clearly derived into this form using the causative morpheme *-es/-se* on the root *utz* ‘good’, along with one other morpheme *-t* which may be the transitivizing *-ta*. *Tzatzbun* is parsed by Robertson et al. (2010:87) as *tzatz-bu-n*, the root meaning ‘strong’ with a transitive positional suffix *-bu* and the transitive imperative *-n*, or possibly the latter half of the future circumfix *x-...-n*. They describe *-bu* as productive, if rare, only occurring once in a transitive sentence and occasionally in the word list. The word list includes entries for *tzatz* ‘fuerte [strong]’, as well as *tzatzbu* and *tzatzbun* ‘ayudar [help]’.

Chojben is also clearly derived with an infix *-j-*, but the exact function is unclear and doesn’t appear to be productive at this point in Ch’olti’. The root historically would have been *chob*, probably also meaning something like ‘love’. It is not always written with the infix represented orthographically, but there is no clear difference in function or meaning when it appears with or without an overt <h>, so I assume this to be non-linguistic

orthographic variation. The example in (1) shows *chojbya* written in parallel environments in the same sentence, the first time with an <h> written before <u> that is sometimes used for /b/, and the second time without <h>. There is also some uncertainty about the vowel <e> that appears in some of the forms in Table 1 in potentially free variation. It is rare for an <e> to be written in instances of lexemes from this stem in the manuscript, but it does occur. It is possible that this is part of the underlying root or another morpheme that is often lost in speech or at least in transcription. It does not appear to have any effect on the meaning.

(1) Ch’olti’ (Morán 1695:63)

<Aquexpa nepa ti **chohuia** bactalca Vahauil Jesuxpto aquexpa neuino **tuchobia** chichel.>

a	k'ex-pa-Ø	ne	pa'	ti	chojb-ya	bakt-al
HAB	change-MP-B3	ART	bread	PREP	love-TR.NMLZ	flesh-POSS
kaw=ajaw-il	Jesukristo	a	k'ex-pa-Ø	ne	vino	
A1PL=lord-POSS	Jesus.Christ	HAB	change-MP-B3	ART	wine	
t=u=chojb-ya	ch'ich'-el					
PREP=love-TR.NMLZ	blood-POSS					

“The bread changes into the beloved flesh of our Lord Jesus Christ, and the wine changes into his beloved blood.”

The suffix *-ya* also appears on root transitive stems (CVC in shape), as shown in (2)-(3).

(2) Ch’olti’ (Morán 1695:76)

...ma	naik	a=k'as-a-Ø	u=tak- ya	Dios	taka
NEG	OPT	A2S=break-TR-B3	A3=send- TR.NMLZ	God	only
ixte					

then

“...and may you not break the commandments of God himself?”

(3) Ch’olti’ (Morán 1695:67)

natz’-et aj-kal-**ya** ti=ka=ba
IND-B2S AG-make-**TR.NMLZ** PREP=A1PL=self

“It was you who created us.” [lit. ‘who is the creator of us’]

Sattler analyzes the suffix *-ya* as the more common of two suffixes to derive nouns from transitive verbs (2004:386-7). The other suffix is *-ojel*, which Robertson et al. (2010) further analyze as *-oj-el*, the antipassive suffix and the nominalizing suffix for intransitive stems. Sattler states that as a rule objects of the verb stem are introduced in oblique phrases after the nominalization, e.g., *taba* ‘to/of you’ in (4), but points out the exception in (5), where the patient appears without a preposition to make the phrase oblique (2004:387).

(4) Ch’olti’ (Morán 1695:77)

aj-k’al-ya **t=a=ba** aj-kol-ya
AG-make-TR.NMLZ **PREP=A2S=self** AG-free-TR.NMLZ
t=a=ba
PREP=A2S=self

“your creator and redeemer”

In (5), *katajnal* ‘our sins’ is acting as the semantic patient of the verb *sat* ‘lose’ as well as being coindexed with the possessor on the entire noun phrase *ujolel ajsatojel* ‘their principal redeemer’ (see the coindexation in (5)). This example may be more literally translated as ‘Who is their principal redeemer, our sins?’

(5) Ch’olti’ (Morán 1695:59)

majchi u_i=jol-el aj-sat-*oj-el* [**ka=tajnal**]_i

who A3=head-ABST AG-lose-AP-INTR.NMLZ A1PL=sin

“Who is the principal redeemer of our sin?”

The example in (5) is the only case of a transitive nominalization without a following prepositional phrase, but it is also the only case of another modifier (*jolel* ‘principal’) preceding the head of the noun phrase (*ajsatojel* ‘redeemer’) in this sort of construction. Set A pronouns are clitics in Ch’olti’, preceding the entire noun phrase. There is no evidence of the Set A ergative markers being able to appear immediately before the agentive prefix; they do not fill the same syntactic roles or functions but do not cooccur in the available data (contrasting with modern Ch’orti’, discussed in more detail in Section 6). Thus, the exception in (9) shows that when there is no agentive, a set A possessor always precedes the noun phrase. When there is an agentive, the possessor instead is indexed with a prepositional phrase following the nominalization, sometimes followed by a full noun phrase for the semantic patient, as *tuyanil ilbil ma ilbil* ‘all things seen and unseen’ is in (6). In this example, *tuba* ‘of them’ is coindexed with the entire noun phrase in brackets.

(6) Ch’olti’ (Morán 1695:59)

majchi	aj-kal- oj-el	t=u _i =ba	[tuyanil il-bil
who	AG-make- AP-INTR.NMLZ	PREP=A3=self all	see-PART
ma	il-bil] _i		
NEG	see-PART		

“Who is the maker of all things seen and unseen?”

The suffixes *-ya* and *-oj-el* appear on the same verb in similar contexts, as in (6)-(8), and there is no clear difference in meaning. In (6) and (7) they appear in similar question constructions and in (6) and (8) they reference the same concept, the “maker”.

(7) Ch’olti’ (Morán 1695:59)

majchi	ixte	aj-kal- ya	ti=ka=ba
--------	------	-------------------	----------

who then AG-make-**TR.NMLZ** PREP=A1S=self

“Who then is our maker?”

(8) Ch’olti’ (Morán 1695:65)

natz’-et	ixte	aj-kal- ya	t=u=ba	tuyanil il-bil
IND-B2S	then	AG-make- TR.NMLZ	PREP=A3=self	all see-PART
ma	il-bil...			
NEG	see-PART			

“You then are the maker of all things seen and unseen...”

There is nothing phonological or phonetic that would prevent a cooccurrence of a Set A marker and an agentive prefix. However, one interpretation of these data is that there is a semantic restriction which prevents the Set A proclitics from cooccurring with the agentive prefix. There are certain semantic classes in Mayan languages which cannot be possessed without some kind of derivation, including many elements of nature, e.g., *k’in* ‘sun’ and *xukur* ‘river’ in Ch’orti’ (ALMG 2009:92). It is possible that agentive nouns form another of these unpossessable classes in Ch’olti’.

Sattler also points out that *-ya* nominals can act attributively (2004:387). All of these examples in the manuscript are with the root *chojb* ‘love’, and in all cases *chojbya* is best translated as ‘beloved’. It usually modifies kin terms (9), and occasionally body part terms (10). All but one of these also have a Set A marker preceding them, but context makes it clear that the pronominals are indicating the possessor of the main noun that *chojbya* modifies, rather than any of the arguments of the nominalized verb. In (9), it could be either that the mother is the experiencer, which would give the reading ‘loving’, or the experiencer role could have been removed, which would give the reading ‘beloved’ without specifying who is doing the loving.

(9) Ch’olti’ (Morán 1695:72)

natz’-et **in**=chojb-ya na’ santa Maria
 IND-B2S **A1S**=love-TR.NMLZ mother holy Mary
 “O, my beloved mother, Holy Mary”

However, in (10), it would be infelicitous to understand this as ‘loving’ with the blood being the experiencer (as the mother might have been in (9) above). Rather, this is better understood as a modifier without any explicit reference to *who* is doing the loving. The experiencer role has been removed from the verb.

(10) Ch’olti’ (Morán 1695:63)

...a k’ex-pa-Ø ne vino t=**u**=chojb-ya
 HAB change-MP-B3 ART wine PREP=**A3**-love-TR.NMLZ
 ch’ich’-el
 blood-POSS
 “...and the wine changes into his [Jesus’s] beloved blood”

The single example in which there is no agentive prefix or Set A marker on a *-ya* nominal is given in (11). Syntactically, the main noun in the noun phrase should be possessed because there is a partitive suffix on the noun root *bak(a)t* which cooccurs with possessives, as well as because the context makes it clear that this is someone’s flesh, obligatorily belonging to someone, rather than just a generic piece of meat or flesh.

(11) Ch’olti’ (Morán 1695:63)

a k’ex-pa-Ø ne pa’ ti **chojb-ya** bakt-al
 HAB change-MP-B3 ART bread PREP **love-TR.NMLZ** flesh-POSS
 kaw-ajaw-il Jesukristo
 A1PL=lord-POSS Jesus.Christ
 “The bread changes into the beloved flesh of our Lord Jesus Christ”

When it refers to unpossessed meat or flesh rather than that of a specific person, it necessarily appears without the partitive suffix, as shown in (12). It is possible that the example in (11) is a mistake on the part of Father Ángel, the copyist and author of much of the manuscript or perhaps that explicit possessive marking could be dropped when the possessive relationship was indicated morphologically elsewhere, such as with the *-al* suffix on *bakt-al* ‘flesh’.

(12) Ch’olti’ (Morán 1695:79)

a=k’ux-u-Ø ka **bakat** tama viernes sabado vigilia

A2S=eat.meat-TR-B3 POLAR **flesh** in Friday Saturday Vigilia

“Do you eat meat on Friday or the Saturday of Vigilia?”

The convention of calling *-ya* an antipassive is misleading, given the evidence in this paper, but Robertson et al. (2010:186-7) are correct in their analysis that it is a more general valency-reducer. It does often also function similarly to an antipassivizer, demoting the object of the verb to an oblique or removing it from the sentence entirely, as in the agentive constructions above, e.g., (7)-(8), but these are a result of the ungrammaticality of possessing the agentive noun. It also syntactically becomes a noun, as can be seen clearly in (13). In this example, the nominalization *takya* ‘sent thing, commandment’ is acting syntactically as the object of the active verb *ak’asa* ‘you break it/them’.

(13) Ch’olti’ (Morán 1695:76)

...ma naik a=k’as-a-Ø **u=tak-ya** Dios

NEG hopefully A2S=break-TR-B3 **A3=send-TR.NMLZ** God

taka ixte

with/only then

“...and may you not break the commandments of God himself?”

If there is no agentive and the nominalization is acting as the head of a noun phrase, the subject of the verb stem (agent/experiencer in antipassive constructions and patient/stimulus in passives) is nearly always referenced with a Set A possessive marker and often has the possessor noun after the nominalization. In (13), the agent *Dios* ‘God’ is indexed with the 3rd person Set A proclitic before *takya* ‘commandments’ and is overtly expressed immediately after. *Takya* is the only example that appears in the religious text as a head of a noun phrase without being an agentive. In (14), *takya* is referring to the things being sent, the patient, rather than the sender. The agent is marked by the 2nd person Set A possessor and the goal role is filled by the prepositional phrase following the nominalization.

(14) Ch'olti' (Morán 1695:70)

...t=uy=a<j>l-al a=pejk-aj-el
PREP=A3=say<PASS>-PASS.NMLZ A2S=speak-PASS-INTR.NMLZ
a=tak-ya [**t=u=chikin** tuyanil winik chum-ul]_{PP}
A2S=send-TR.NMLZ **PREP-A3-ear** all man be-POS

“...[for the] speaking of your words, your commandments, into the ears of
all the men on earth”

4.2 Ch'orti'

In this section, I describe the form and function of the transitive nominalizer *-yaj* in modern Ch'orti'. It is comparable with *-ya* in Ch'olti', but there are phonological and syntactic differences. These could be due to changes over time or derive from dialectal differences in the period in which Ch'orti' was still a dialect of Ch'olti'.

The suffixes *-yaj* (IPA /-jax/) and *-ya* (IPA /-ja/) are clearly cognate forms, but with the difference that the Ch'orti' form has a final velar fricative /x/ whereas the Ch'olti' form

has no final consonant. The authors of the Ch'olti' manuscript did not write the velar fricative for other morphemes in approximately 27% of the instances that Robertson et al. (2010) reconstruct it (212 times in 794 possible instances). Even so, if the Ch'olti' suffix had an /x/ coda consonant, we might expect it to have been written at least once, perhaps in the isolated examples in the *Artes* or the word list, since there are other examples of morpheme-final /x/ being written in Ch'olti', including the one in (15). In this example, *tij* is written <ti~~h~~>, with a final consonant explicitly written. This provides evidence that word-final /x/ was at least sometimes present in spoken Ch'olti'.

(15) Ch'olti' (Morán 1695:79)

<aVala cati~~h~~ tuba~~æ~~bob achoquil>

aw=al-a-Ø ka **tij** t=u=ba-ob

A2S=say-TR-B3 POLAR³teach PREP=A3=self-PL

a=ch'ok-il

A2S=youth-POSS

“Do you teach our doctrine to your children?”

In contrast, Ch'orti' has morpheme-final /x/. As will be argued in Section 5, the likely proto-Ch'olan form of the suffix is **-yaj* (IPA /-jax/), so the Ch'olti' lack of the fricative is innovative. This is further evidence that Ch'orti' is descended from a dialect of Ch'olti' distinct from the one in which the manuscript is written.

According to the brief prescriptive grammar published by the Ch'orti' ALMG, *-yaj* is part of the agentive circumfix *aj-...-yaj*, as in (16) (2009:109). Interestingly, all examples

³ This is analyzed in Robertson et al. (2010) as *awala katij tubaob ach'okil* ‘Do you teach our doctrine to your children?’ where *ka-* is the first-person plural possessor of *tij*. However, given that this is a polar question, which is usually marked with the particle *ka* in second position, I have reanalyzed it as such, leaving *tij* unpossessed.

of the agentive circumfix in this publication also include the causative morpheme *-se/es*, which often reduces to just *-s*.

- (16) Ch’orti’ (ALMG 2009:109, my parsing and glossing following the circumfix analysis)

aj-k’o’y-es-yaj

AG-tire-CAUS-AG

“el que cansa” [“he who tires”]

However, in my elicitation work, this does not appear to be the case for all forms. The examples in (17)-(18), from my own fieldwork in 2019, provide evidence against this analysis. In (17), *-yaj* is able to affix without the agentive prefix and refers to the event or process of telling a story.

- (17) Ch’orti’ (elic. Walters 2019)

k’ajt-s-yaj

tell-CAUS-TR.NMLZ

“the process of telling (a story)”

In (18), the addition of the agentive prefix changes the meaning to be one who does the story telling.

- (18) Ch’orti’ (elic. Walters 2019)

aj-k’ajt-s-yaj

AG-tell-CAUS-TR.NMLZ

“he who tells (a story)”

The *-yaj* morpheme cannot affix to intransitive roots without another morpheme like *-se/es* to transitive it, as in (19)-(20).

- (19) Ch’orti’ (elic. Walters 2019)

***ajn-yaj**

run-TR.NMLZ

intended: “corrida” “[the run]”

- (20) Ch’orti’ (elic. Walters 2019)

ajn-es-**yaj**

run-CAUS-TR.NMLZ

“corrida” “[the run]”

Fought (1967) describes two “secondary suffixes” that are used to create nominals on different stems, *-(y)aj* and *-(y)an* (1967:237-9). He briefly treats each of these suffixes and the classes between which each derives words. Other than the specific stem class to which each affixes, he treats them as allomorphs. However, in the examples he provides, *-yaj* and *-yan* are not equivalent (ibid.:238-9). In (21), *-yaj* derives a verbal noun and (22) shows it with an agentive prefix.

- (21) Ch’orti’ (Fought 1967:238)

kan-se-**yaj**⁴

teach-CAUS-**TR.NMLZ**

“Teaching”

- (22) Ch’orti’ (Fought 1967:238)

aj-chuk-ma-**yaj**

AG-hunt-AP-**TR.NMLZ**

“Hunter”

In contrast, the parallel constructions presented by Fought (1967:239) for *-(y)an* forms have the active verbal translation in (23), while forms with *-(y)aj* can take nominal morphology such as the agentive in (22), and the *-(y)an* antipassive suffix takes a Set C

⁴ All examples from Fought (1967) have been transcribed to the modern orthography defined by the ALMG.

pronoun in (23), which is reserved for intransitive incomplete verbs. The suffix *-yan* deletes the complement of the verb but leaves it verbal. The other morphology does not affect this, since we can see the causative *-se* preceding *-yaj* in (21) and preceding *-yan* in (23).

- (23) Ch'orti' (Fought 1967:239)
a-kan-se-**yan**
C3-teach-CAUS-AP
‘‘He teaches’’

Later work (Hull 2016), however, identifies a nominalizer *-ya'n ~-yan* (these seem to be allomorphs in at least partially free variation), which is functionally more similar to *-(y)aj*, but formally like the verbal antipassive *-yan*. Hull classifies words based upon the other derivational morphology present; of 47 nominalization classes, seven of them take *-(y)aj* and three take *-ya'n* (ibid.:23-24). Based on example sentences present in each of the entries, there is no strong evidence that *-ya(')n* acts as a nominalizer. In all examples, words derived with *-ya(')n* all have another nominalizer *-ir* following. According to his description of the other derivational morphology in these classes, there is sometimes a separate antipassive morpheme present (i.e., *-m* or *-on*). This would indicate that any antipassive reading comes from the presence of this morpheme rather than a secondary function of the nominalizing suffixes.

Hull (2016) is a dictionary with the primary intent of being a guide to the words of the language. It has grammatical information but is far from exhaustive, and the exact semantic nuances and distribution of words with each of these suffixes were not explored to confirm that they are different. Examples can be seen in (24)-(25), taken from two separate headwords that are likely phonological variants of the same lexeme. (24) is analyzed as having the suffix *-aj*, and (25) has *-yaj*. Both words are derived from the root

xujch'i ‘steal’ with the same translation. Both are used in similar syntactic contexts, and it is not clear that they are distinct lexemes. In fast speech, phonological reductions are common, including deletion of the glide /j/ (<y>) after another consonant, as in these examples.

(24) Ch’orti’ (Hull 2016:504)

E ixik uyusre e **xujch’aj**.

“The woman likes **stealing**.”

(25) Ch’orti’ (Hull 2016:504)

Tara ayan e **xujch’yaj**.

“There are **robberies** here.” (ibid.)

The suffix *-yaj* seems to be relatively uncommon in modern Ch’orti’. In elicitation as part of my fieldwork during the summer of 2019, most speakers preferred to nominalize transitive stems by means of other valency decreasing morphemes and the intransitive nominalizer *-ar*, as in (26).

(26) Ch’orti’ (elic. Walters 2019)

takesna’r

tak-es-na-**ar**

dry-CAUS-DR.TR.PASS-**INTR.NMLZ**

“(the process of) drying”

They usually also accepted nominalizations with *-yaj* as in (27), often without any clear difference in meaning from the *-ar* nominals as in (26), which forms a pair with (27) that only differ in their suffixes. For some speakers, *-yaj* was more productive than for other speakers. This could be a result of *-ar* gradually taking the place of *-yaj* as the productive nominalizing suffix. The increasingly productive *-ar* also requires the valency

of the root to be limited to one argument, in contrast to *-yaj* which requires a transitive stem.

- (27) Ch'orti' (elic. Walters 2019)
tak-es-**yaj**
dry-CAUS-TR.NMLZ
“(the process of) drying”

The allomorphs *-yaj* and *-aj* are in relatively free variation. The more phonologically reduced form is found primarily in fast speech, and is most often following the causative *-es/-s*. These allomorphs are occasionally treated as separate nominalizing suffixes by other authors. Fought first describes *-yaj* and *-aj* as deriving nouns which can take possessors and definite articles (1967:237). However, his example of the latter allomorph is *niyob'sajir* ‘my breaking things’, which should be parsed as the passive *-aj* and the intransitive nominalizer *-ir*. There are no other examples provided of any forms with *-aj*. He states that they derive different types of roots into aspectual, causative constructions (ibid.), but there are few examples with *-yaj* and none with *-aj* that could be reproduced in another elicitation session.

Hull (2016) divides *-yaj* and *-aj* forms into several different classes of derived nominals based upon other morphology in the roots and surface phonological variation. Based on elicited data, for example the pair of words in (28)-(29), and speakers’ intuitions during my own fieldwork, they are the same morpheme. In the examples below, the glide /j/ (<y>) can be present or absent without a change in meaning. Consultants suggested that it could be due to dialect variation or rate of speech.

- (28) Ch'orti' (elic. Walters 2019)
eroj-s-**yaj**

image-CAUS-**TR.NMLZ**

“observation”

(29) Ch’orti’ (elic. Walters 2019)

eroj-s-**aj**

image-CAUS-**TR.NMLZ**

“observation”

There are also syntactic differences readily apparent between Ch’olti’ and Ch’orti’. Whereas Ch’olti’ disallows Set A possessors preceding the agentive suffix (30), Ch’orti’ prefers exactly that cooccurrence (31). The example in (30) shows that in Ch’olti’ the patients of the verbs are not marked with possessive proclitics when there is an agentive prefix present and instead appear in a prepositional phrase following the nominalization.

(30) Ch’olti’ (Morán 1695:77)

...aj-kal-**ya**

t=a=ba

aj-kol-**ya**

t=a=ba

AG-make-**TR.NMLZ**

PREP=A2S=self AG-free-**TR.NMLZ**

PREP=A2S=self

“...your maker, your savior”

Example (31) shows that in Ch’orti’, it is possible and even preferred to use Set A possessors to mark the patient.

(31) Ch’orti’ (elic. Walters 2019)

...aw-aj-che-**yaj**

aw-aj-korpes-**yaj**

A2S-AG-make-**TR.NMLZ**

A2S-AG-save-**TR.NMLZ**

“...your maker, your savior”

This is a direct translation, so the presence of -yaj should be regarded critically. It was elicited as a partial translation of the Ch’olti’ Manuscript into modern Ch’orti’ during my fieldwork in 2019. I worked with a consultant through part of the Confessionary section (specifically Morán 1685:75-77), in which I explained line-by-line the gist of the text, the

consultant read the Ch’olti’ and, when it was available, the original colonial Spanish translations, and gave a word-by-word translation as well as a free translation. During this process, a number of clear changes could be seen.

Still, a Ch’orti’ native speaker provided and accepted the sentence in (31) as grammatical. Where in Ch’olti’ Set A markers on agentive nouns are unattested, Ch’orti’ now has a strong preference for exactly that construction. It was also deemed possible in some cases to have a construction that mirrors the syntax in the Ch’olti’ Manuscript (32)-(33), in which the translation in (33) has the same word order and representation of the patient in a prepositional phrase. The example in (33) was only given in a close translation between the two languages and was strongly dispreferred.

(32) Ch’olti’ (Morán 1695:77)

...aj-il-ya	t=a=ba	aj-na’ta-ya
AG-see-TR.NMLZ	PREP=A2S=self	AG-know-TR.NMLZ
t=a=ba		
PREP=A2S=self		
“...he who sees you, he who knows you”		

(33) Ch’orti’ (elic. Walters 2019)

aj-ir-es-yaj	t-a-b’a	aj-nata-n-yaj
AG-see-CAUS-TR.NMLZ	PREP-A2S-self	AG-know-?-TR.NMLZ
t-a-b’a		
PREP-A2S-self		
“...he who sees you, he who knows you”		

This example is a word-for-word translation from Ch’olti’ into modern Ch’orti’ by a native speaker. It shows that it is still possible, at least in some contexts, to have the same oblique phrases for the patient of the verb root. It is interesting to note that some of the

obligatory morphology has changed, even in a close translation, including the causative suffix after *ir* ‘see’ and the *-n* suffix after *nata* ‘know’. The form in (40) was more natural for the speaker with whom I did this translation.

(34) Ch’orti’ (elic. Walters 2019)

xe chi uwiret xe chi unate’t⁵

xe’ chi uw-ir-et xe’ chi u-nata-et

REL PRON A3-see-B2S REL PRON A3-know-B2S

“...he who sees you, he who knows you”

In this case, the nominalizations have been removed entirely and a strategy of relativization of an active incomplete transitive clause is used instead.

4.3 Chol and Chontal

Cognate forms of this suffix have also been described in both Western Ch’olan languages with similar functions. Reflexes of **-yaj* function very similarly in Chol and Chontal especially, and are not unlike the reflexes already shown in Eastern Ch’olan. Because of this similarity, I analyze Chol and Chontal together in this section.

The cognate suffix in Chol is analyzed as *-aj* with an epenthetic palatal glide when the stem ends in a vowel (Vásquez Álvarez 2011). Vásquez Álvarez describes it as an antipassive of incorporation that is syntactically the complement of the light verb *cha’l* ‘do’ (ibid.:109). These light verbs are necessary to bear TAM and person marking associated with the event in the nominalized verb. Nominalized verbs with *-aj* have an agentive reading. He provides examples like the one in (35), which support Coon’s (2010)

⁵ This example is from careful elicitation during a translation task. In fast or natural speech, at least some of the vowels would reduce, coalesce, or delete entirely.

analysis that intransitive verbs are only weakly distinct from nouns in split-ergative languages (Vásquez Álvarez 2011:109-10).

- (35) Chol (Vásquez Álvarez 2011:181)
- | | | | |
|-----------------|-------------------|--|------|
| tyi | i-cha'l-e-Ø | ts'äk-a-y- aj , | tyi |
| PRFV | A3-do-DER.TR-B3 | cure-DER.TR-EP- AP ⁶ | PRFV |
| i-cha'l-e-Ø | koty-a-y-aj | | |
| A3-do-DER.TR-B3 | help-DER.TR-EP-AP | | |
- “He (Jesus) cured, he helped.”

The verb roots *ts'äk* ‘cure’ and *koty* ‘help’ in example (35) are two verbs in Chol which fall into the class of derived transitives. Each takes a -V suffix found on derived transitives before taking the nominalizing suffix. In each of these cases, the -V suffix is -a, but this is lexically determined. There are no phonological processes (e.g., harmony, assimilation, dissimilation) that explain the particular vowel that a given root takes (Vásquez Álvarez 2011:97).

Nominalizations with -aj can still have an overt patient in the sentence, but they incorporate the object noun into the nominal matrix, as in (36). They can also take the agentive prefix *aj*- as in (36) and (37).

- (36) Chol (Vásquez Álvarez 2011:183)
- | |
|---------------------------------|
| aj-tsän-s- aj -wakax-ety |
| AG-die-CAUS- AP -cow-B2 |
- “You are a cow killer”
- (37) Chol (Vásquez Álvarez 2011:182)
- | |
|---------------------------|
| aj-tsän-s- aj -ety |
|---------------------------|

⁶ Glossing for Chol and Chontal has been changed to conform to glossing of other languages for the purpose of this paper with the exception of that for the (nominalizing) antipassive morpheme.

“You are a killer”

Chontal has a reflex of *-*yaj* which is -*ayaj* and, like Chol and Ch’orti’, has the allomorph -*aj*. Chontal has been described primarily by Knowles (1984) and Osorio May (2005, 2016). Osorio May describes this morpheme as a verbal antipassive that can partially incorporate objects (2005:167-70). The -*ayaj* form occurs on stems with the derivational suffixes -*le*, -*na*, -*ta*, and -*pa*, and the -*aj* form occurs after the causative -*se* (ibid.:167). However, these forms all require a light verb (*ch(e)* ‘do’ in all of the provided examples) in order to inflect the event for person and TAM. This is evidence of these functioning syntactically as nouns, since nouns in Mayan languages cannot bear TAM morphology. This is the same structure as in Chol in (35). A few examples in Chontal are given in (38)-(39).

(38) Chontal (Osorio May 2005:167; my translation)

’u-ch(e)-i-Ø poj-l-**ayaj** tak’in
A3-do-VTPF-B3 find-TR-**AP** money
“He found money”

(39) Chontal (Osorio May 2005:168; my translation)

’a-ch(e)-i-Ø t’ib-s(e)-**aj** ja’as
A2-do-VTPF-B3 rise-CAUS-**AP** plantain
“You raised up the plantain”

Osorio May (2005) shows that -(*ay*)*aj* constructions can function syntactically as nouns, in which case they can take normal nominal morphology, as in (40)-(41).

(40) Chontal (Osorio May 2005:169; my translation)

ki-poj-l-**ayaj**

A1-find-TR-AP

“my encounter”

In (41), there is also noun incorporation. This form of nominalization can occur with a reflex of **-yaj* in the languages that have them. This incorporation is evidenced by the object preceding the Set B suffix that completes the predicate. This is again exactly parallel to what we see in Chol in (36).

(41) Chontal (Osorio May 2005:169; my translation)

'aj-poj-l-**ayaj**-tak'in-on

AG-find-TR-AP-money-B1

“I am the one who finds money”

If the verb has an overt object in the sentence, it must appear after the nominalized verb, as in (38) and (39). In (38), the object *tak'in* ‘money’ follows the nominalization *pojlayaj* ‘finding’, and in (39) the object *ja'as* ‘plantain’ follows the nominalization *t'ibsaq* ‘raising’. However, articles and possessors are ungrammatical in this construction, as in (42)-(43).

(42) Chontal (Osorio May 2005:169; my translation)

*'u-ch(e)-i-Ø poj-l-**ayaj** ni tak'in

A3-do-VTPF-B3 find-TR-AP ART money

intended: “He found the money”

(43) Chontal (Osorio May 2005:169; my translation)

*'u-ch(e)-i-Ø poj-l-**ayaj** 'u-tak'in

A3-do-VTPF-B3 find-TR-AP A3-money

intended: “He found his money”

This is also evidence of noun incorporation. If there were a full object NP following the nominalized forms, there should be nothing ungrammatical about either of the above

sentences. Rather, the example in (41) can be understood as an individual noun that has been included in the larger nominal complex that was incorporated at the noun level, not the noun phrase level.

These nominalizations can also function as a complement of negative existentials, as in (44). In all constructions, Chontal appears to be functioning the same as Chol.

- (44) Chontal (Osorio May 2005:169; my translation)
- ma'an-Ø poj-l-**ayaj**
- NEG+EXIST-B3 find-TR-AP
- “There is no encounter”

5 PHONOLOGICAL RECONSTRUCTION

In this section, I provide an argument for the reconstruction of **-yaj* (IPA /jax/) for proto-Ch'olan. I begin with brief descriptions of each reflex in the four languages and relevant phonology that provides evidence for this reconstruction. I then consider the alternative proposal from Becquey (2014). Finally, I provide the changes that each language has undergone to change from proto-Ch'olan **-yaj* to their respective reflexes.

In Ch'orti' this suffix is phonetically [jax] or [jah], but it is unclear which because there has been no acoustic study of Ch'orti' phonetics. According to Hull (2016), it is the glottal /h/ with only the basic allophone. ALMG (2009) lists the only back fricative as a velar /x/. A grammar from the Proyecto Lingüístico Francisco Marroquín lists /x/ and /h/ as distinct phonemes (Perez Martinez 1994:29). However, in Perez Martinez's (ibid.) examples, these phones are in complementary distribution: /h/ always appears pre-consonantly, either in a complex coda (e.g., [sohk^h] 'trash') or across syllable boundaries (e.g., [nohtaʔ] 'big'), and /x/ is shown in both onset (prevocalic) and coda (word final) position, as well as intervocalically (e.g., [xor] 'head', [ʃex] 'vomit', and [ʔoxop^h] 'cough').

There are no minimal pairs of /x/ and /h/ provided. All of this provides evidence that these are allophones of the same phoneme, rather than distinct phonemes.

In Chol, Vázquez Álvarez (2011) analyzes this suffix phonemically as /-ax/ with an epenthetic palatal glide preceding it when needed to avoid hiatus. In his discussion of phonological processes, he states that the only possible cases of hiatus after a root occur with 1st and 2nd person Set B markers *-oñ* and *-ety*, respectively, which both trigger [j]-insertion (ibid.:51, 54). There is no clear evidence of what might be expected to occur before /a/. Given this, it is equally feasible that the glide could be epenthetic to avoid hiatus or underlying and deleted post-consonantly. Comparative evidence with the other Ch'olan languages gives weight to the latter analysis, which is the one I adopt. According to his phonological analysis of the language, there is also no evidence that the velar fricative ever alternates with a glottal allophone.

In Chontal, Knowles (1984) describes a glottal phoneme with a velar allophone adjacent to /a ì i/, with some further variation in exact placement on the velum. Adjacent to /a/, as in the suffix /-ah/, it is expected to be glottal. She also points out that it deletes altogether in certain positions. Becquey (2014) only mentions *-ya* (see Table 2), which is not the full form of either of Knowles's (1984) or Osorio May's (2005) morphemes.

Becquey (2014:465) reconstructs the transitive nominalizer in Proto-Cholan to **-yah* (IPA **/jah/*), with a final glottal fricative /h/. In his correspondences of this suffix across Cholan languages, all forms are listed as /ja/, with the exception of Ch'orti', which has /jah/. Because of the Ch'orti' form, he reconstructs the glottal, positing deletion over insertion of a word-final fricative. However, the reconstruction of a glottal fricative is not supported by evidence from the modern and historically attested languages. Instead, I conclude that a velar fricative should be reconstructed. In addition, the commonality of elision of the glide /j/ in the descendant languages, it is probable that it was present even

in the proto-Ch'olan form as phonetic variation, but the underlying form would have been *-yaj.

LANGUAGE	BECQUEY (2014:465)	FORMS IN THIS PAPER	SOURCE
Ch'olti'	<ia>	-ya	Robertson et al. 2010, Morán 1695
Ch'orti'	-yah	-yaj	Walters fieldnotes, 2019
		-aj	Walters fieldnotes, 2019
Chol	-ya	-yaj	Vásquez Álvarez 2011
		-aj	Vásquez Álvarez 2011
Chontal	-ya	-ayaj	Osorio May 2005
		-aj	Osorio May 2005

Table 2. A comparison of forms provided by Becquey (2014) and other sources, showing the level of variation in each language. <y> represents the phoneme /j/, and <j> represents the final fricative. In Ch'orti', this is either [x] or [h]; in Chol it is [x] (Vásquez Álvarez 2011:47); in Chontal it is [h] in this position (Keller 1959:47).

In proto-Mayan */x/ and */h/ were contrastive and this contrast was maintained through proto-Greater Tseltalan (Kaufman & Norman 1984:86). Kaufman and Norman (ibid.) note that Chontal has different correspondence sets for */x/ and */h/, which they take to be evidence that proto-Ch'olan also maintained the distinction. These two phonemes were also contrastive in Classic Mayan and were carefully written with different signs for most of the time that hieroglyphs were being used (Grube 2004). This distinction became blurred and disappeared sometime during the Late Classic period (AD 550-830), which likely reflected a change in the spoken language (ibid.). Many modern Mayan

languages do not maintain evidence of the distinction between these two phonemes, particularly in lowland languages. Most Ch'olan-Tzeltalan languages (except Chontal and a few dialects of Tzeltal and Tzotzil), most Q'anjob'alan languages (except Chuj and Popti'), and Yucatecan have completely merged these phonemes (Law 2014:38). The exceptions to this merger make it clear that it was not inherited and must have spread through contact in the Lowland Maya area (ibid.).

In looking for a source of this Ch'olan-innovated suffix, Robertson et al. (2004:285) posit that it could have arisen from the compounding of *-(V)y* and *-aj*, both of which are nominalizing antipassive markers and which easily could have combined to make a third nominalizing antipassive marker. They also observe *-yaj* (/j-*jax*/) in certain royal names including the words *yipyajeel* and *yipyaj(j)* in the hieroglyphs at Copán, Quiriguá, and Naranjo (ibid.:285-6). If these Classic Mayan examples are indeed the same suffix, they provide strong motivation to reconstruct */j-*jax*/ rather than Becquey's */j-*jah*/ because in Classic Mayan /x/ and /h/ were distinct until very late hieroglyphic inscriptions.

Assuming the proto-form */j-*jax*/, it is straightforward to reconstruct the phonological changes that each language underwent as it changed over time. Both Ch'olti' and Chol have entirely preserved this form. Ch'orti' sometimes elides the glide, particularly in fast speech after the causative morpheme *-es*, but this seems to be in free variation. Chol elides the glide when it immediately follows a consonant and retains it to avoid vowel hiatus. If the proto-Ch'olan morpheme also allowed deletion of the glide in certain contexts, then neither Ch'orti' nor Chol have undergone any changes.

Ch'olti' appears to have deleted the final fricative of this morpheme altogether. Preliminary work on the phonology of the Ch'olti' Manuscript has given no evidence of the /x/~h/ distinction surviving. The phoneme /h/ was not always written in the manuscript, as discussed in Section 4.1 above, but it was consistently omitted in this context, suggesting

that it was not underlyingly present in this morpheme. In fact, Ch'olti' shows little evidence for any word-final /h/. In the manuscript, there are only three instances of it being written: there are two instances of <tih> 'teaching' (Morán 1695:75, 79) and one instance of <amaih> 'your gift' (Morán 1695:79). This could be evidence of extreme phonetic weakening, such that the non-native author did not hear [h] in final position. However, cognates that might be expected to have a final fricative (e.g., *-yaj and *noj 'big') are consistently written without a final consonant. This indicates a wider process of word-final deletion, perhaps especially in affixes or more common morphemes, or else after non-front vowels.

Chontal has the most phonological variation by far. */x/ became /h/ across the language. In Knowles's (1984) data forms with the causative morpheme tend to retain the glide, and other derivational morphemes tend to cause it to elide. Osorio May (2005) states the opposite distributional rule, that the glide remains with derivational suffixes except the causative, which causes it to elide. Each author describes one allomorph which begins with the vowel /a/. It is quite possible that, similar to Chol, Chontal maintained the glide when it appeared intervocally and the preceding vowel was eventually reanalyzed as part of the nominalizing antipassive suffix. Where it follows a consonant, including places where a preceding vowel is elided, the glide is also elided.

This preceding vowel may have come from another morpheme, similar to certain obligatory -V verbal suffixes in Chol (Vásquez Álvarez 2011). However, this does not fully explain the allomorphy of -aj and -ayaj in Chontal. The shorter variant -aj does appear almost exclusively after the causative, but there is at least one example, given in (45), where it occurs without a preceding causative suffix.

(45) Chontal (Osorio May 2005:64; my translation)

che-n-Ø ch'uych-aj ch'ok

do-IMP-B3 cure-AP child

“Cure the child!”

Based on the limited data available, one possible alternative to Osorio May’s (2005) distribution analysis would be that *-aj* appears after sibilant consonants and *-ayaaj* in all other environments. There is little phonological motivation for such a distribution, however, and more data are necessary to further explore this question. One alternative analysis comes from Robertson et al.’s (2004:285) proposal that this suffix was innovated as a combination of the nominalizing suffixes *-(V)y* and *-aj* and Chontal either maintained the morphemic boundary between the two or fossilized the combination of the two slightly differently than did the other Ch’olan languages.

6 SYNTACTIC FUNCTION

Most sources that discuss **-yaj* refer to it as an antipassive nominalizer and most treat constructions with it as syntactic nouns, possibly something like a gerund. Becquey discusses it along with other suffixes which mark antipassive verbal nouns, and reconstructs this particular suffix as appearing on derived transitive stems (2014:465). He calls it a fusional suffix, which marks nominalization and antipassivization. In this section, I argue that **-yaj* is a transitive nominalizing suffix that often, but not always, decreases the valency of the verb. This can be through the deletion of the object (reflecting antipassivization) or the deletion of the subject (reflecting passivization).

In Chontal this suffix has been analyzed as both a nominalizer and a verbal suffix (Knowles 1984 and Osorio May 2005, 2016, respectively). Chol and Chontal function very similarly with regards to **-yaj*, despite their differing analyses. Examples from above are reproduced below to illustrate this.

(46) Chol

(Vásquez Álvarez 2011:183)

aj-tsän-s-**aj**-wakax-ety

AG-die-CAUS-**AP**-cow-B2

“You are a cow killer” (Chol)

(47) Chontal

(Osorio May 2005:169)

’aj-poj-l-**ayaj**-tak’in-on

AG-find-TR-**AP**-money-B1

“I am the one who finds money”

Based on the parallels in distribution between the two languages, I conclude that this suffix has the same syntactic function in Chol and Chontal. They both require light verbs to bear TAM and person marking, they both take nominal morphology, and they both allow object incorporation. These are all hallmarks of nominalization.

MacLeod (2004) discusses focus antipassive constructions using *-yaj* in Classic Mayan. She highlights the name K’ahk Yipiyaj Chan K’awiil (Copán’s ruler 15), spelled alternately with the syllables **ya** and **ya-ja**, and contrasts it with other examples of the **ya** syllable after verbs. She hypothesizes that in this name, *yip* ‘fill up’ might have been transitivized with *-i* and then antipassivized with *-yaj*, crucially with no indication of nominalization (MacLeod 2004:323). Later in the paper, she argues that *-yaj* never appears on derived transitives, and that in these cases **ya** is better understood as spelling the temporal deictic *-iiy* (ibid.:323-4). It is unclear whether, under her analysis, *yipi* would be considered a derived transitive, since the *-i* suffix transitivizes the root, or not. It is also possible that the root *yip* is transitive, as it is in Yucatec (ibid). She says that *-yaj* does occur in Classic Mayan inscriptions outside of names, but provides only one example *pati yipyajeel* ‘was formed piling up/overflowing’ from Yaxchilan Lintel 22 and does not discuss the grammar of this example in detail (ibid.). The suffixation of *-yaj* to transitive

roots (possibly to the exclusion of derived transitive stems), if true, is exactly opposite of most of the data presented in this paper thus far.

Zender (p.c. 2019) points out that names like K'ahk Yipyaj Chan K'awiil might be parallel to other names featuring an antipassivized transitive verb followed by *chan* 'sky' and a god's name (e.g., K'ahk Tiliw Chan Chahk, in which *til* 'burn' takes the antipassive -Vw). He also points out that having the intransitive stem nominalizer *-eel* on attested forms like *yipyajeel* would be unexpected if *-yaj* is already a nominalizing suffix here. Rather, Zender sees it as a verbal antipassive marker to parallel other verbal suffixes used in proper names.

Under that interpretation, it could be argued that **-yaj* should be reconstructed as a verbal antipassive that became a nominalizer in the modern languages. That is, if the suffix that Zender (p.c. 2019) and MacLeod (2004) describe is cognate, then it would be evidence of the *-yaj* form acting as a verbal head of a predicate. As noted above, Classic Mayan is argued to be in the Eastern Ch'olan branch as a direct predecessor of Ch'olti' and Ch'orti'. Given this genetic relationship, **-yaj* should be reconstructed as a verbal antipassivizer that was reanalyzed as a nominalizer in at least Eastern Ch'olan after Classic Mayan. However, semantic interpretation of names alone is not strong enough evidence to contradict the distribution of several related languages. This would require that all four of the Ch'olan languages discussed in this paper shifted **-yaj*, possibly somewhat independently depending on how long ago the change was and where speakers were located at the time, to a nominalizer and then Western Ch'olan has partially shifted those constructions back to being verbal.

Under the analyses of the syntactic function of **-yaj* presented in this paper for modern Ch'olan languages, however, I argue that it is much simpler to reconstruct this suffix as a nominalizer for derived transitive stems in proto-Ch'olan. The nominalization

function is far more common and would require fewer changes as the languages have evolved. Under this analysis, the reduction of valency associated with nominalization would be responsible for demoting or eliminating some of the verb's arguments. The innovation of split ergativity in Western Ch'olan languages led to the use of nominalizations in some grammatical constructions. These have come to be reanalyzed in Chontal and Chol as quasi-verbal, taking a light verb to bear the TAM and person marking associated with the event. Eastern Ch'olan languages have maintained the nominalization function as primary, opting to represent the verb's arguments through obliques, or more often, possession. Therefore, I conclude that **-yaj* functioned in proto-Ch'olan as a transitive nominalizer, as it still is in Eastern Ch'olan, and shifted in Western Ch'olan to act more verb-like in specific grammatical constructions. This reanalysis is by no means unique, and indeed may be occurring in Ch'orti', as well. Further grammatical evidence in contexts other than names will be needed to account for Classic Mayan.

7 CONCLUSIONS AND FUTURE RESEARCH

This study surveyed Ch'olan languages to reconstruct the phonology and syntax associated with the reflexes of the nominalizing antipassive suffix **-yaj*. It took into account documented variation of these reflexes in modern languages, supplemented with primary field research, as well as historical written evidence. I reconstruct the transitive suffix **-yaj* (IPA **/-jax/*) to proto-Ch'olan. It is probable that the glide deleted in certain phonological environments in proto-Mayan, and perhaps in fast speech. In terms of function, I argue that this proto-morpheme reduced valency and formed verbal nouns.

There are several directions for possible future research on this topic. Most prominently, syntactic and semantic tests of the distribution and function of *-yaj* derivations should be run with speakers of all three modern languages. It is, of course, not possible to

run the same tests on historical languages, but a more careful analysis of Classic Mayan texts as well as colonial documents, e.g., the Paxbolon Maldonado papers, might provide more insight to how reflexes of **-yaj* were used and phonetically realized historically.

A close phonetic study of full and reduced forms of *-yaj* in Ch'orti' as well as a wider study of variation across registers would provide clearer evidence for any linguistic or stylistic constraints on the alternation of *-aj* and *-yaj* in certain words. This alternation is not present in every word derived with this nominalizer, and it is at present unclear whether it is phonologically driven. A broad lexical study of Chontal will also be invaluable. The examples of *-(ay)aj* derived data are few and make a confident conclusion about the distribution of this alternation impossible. A full lexical study of Chontal will provide enough evidence to more fully evaluate potential phonologically driven explanations for this alternation in Chontal as well.

This study contributes to the literature on nominalization strategies as well as valency reduction through the process of nominalization and noun incorporation. It provides an example of languages that have grammaticalized nominalizations into other functions, specifically taking a light verb to create a periphrastic verb. It also endeavors to take steps toward using historical records of past languages for phonological and syntactic analysis, despite the impossibility of elicitation or native speaker judgements.

Abbreviations

1	first person
2	second person
3	third person
A	Set A (ergative or possessive)
ABST	abstract
AG	agentive
AP	antipassive
ART	definite article
B	Set B (absolutive)
C	Set C (subjects of transitive verbs in imperfective aspect)
CAUS	causative
CL	numeral classifier
DEIC	deictic
DER	derived
EP	epenthetic
EXIST	existential
HAB	habitual
IMP	imperative
INCL	inclusive
IND	independent pronoun
INTR	intransitive
IPFV	imperfective
MP	mediopassive

NEG	negation
NMLZ	nominalizer
OBL	oblique
OPT	optative
PASS	passive
PART	participle
PL	plural
POLAR	polar question particle
POS	positional suffix
POSS	possession
PREP	preposition
PRFV	perfective
PRON	pronoun
REL	relative pronoun
S	singular
TR	transitive
VTPF	perfective thematic vowel

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